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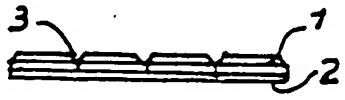
(54) Title: LINING MATERIAL FOR COVERING FLOORS, WALLS, CEILINGS AND COLUMNS



(57) Abstract

Lining material for covering floors, walls, ceilings and columns consisting of a bottom layer (2) of flexible non-woven one side of which is provided with a contact adhesive, the adhesive on the one side being free of tackiness, and adhered thereto a top layer of small boards (1) provided with a similar adhesive and pressed onto the adhesive side of the bottom layer. The small boards have a relatively high moisture content and are provided with a bevelled edge (3). The adhesive on the bottom layer is a natural latex forming a high adhesive bond with the bottom layer while the adhesive on the small boards forms a weaker adhesive bond to the wood. The back side of the bottom layer is provided with a backing.

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Title: Lining material for covering floors, walls, ceilings and columns.

The invention relates to a lining material for covering floors, walls, ceilings and columns consisting of a top layer of small boards and a bottom layer.

From the Dutch patent application 299.283 a parqueting element is known in which parquet strips are adhered to a very thin and open fabric. Here the fabric serves to keep the parquet strips together in order to facilitate glueing the same to a subfloor; the fabric however is too thin to serve as a bottom layer.

From the Dutch patent specification 3466 a floor covering is known in which boards of wood are fixed to a bottom layer of fabric and veneer which floor covering therefore is too stiff and expensive in manufacture and has to be adhered integrally to the subfloor for preventing bulging by moisture. Other known floor coverings and wall linings of wood have the drawback of too thick a structure in general. In flooring problems are caused thereby with respect to the height of threshold and adjoining floors of a different type. In case of walls fastening requires laths causing so high a total thickness that additional provisions have to be made at doors and window frames.

In prefabricated floor and wall panels the number of possible patterns per type is limited. Prefabricated floors laid floating have the drawbacks of loud treading noise, the necessity of very smooth subfloors and the risk of set bulging and permanent deformations in case of leakages and abnormally high moisture content of the air. Furthermore it is difficult to replace damaged floor panels or boards fitted together by groove and tongue connections in an easy way and impossible to simply exchange panels or boards as is possible in case of carpet tiles.

The invention aims to provide a new type of floor covering and wall and ceiling lining of wood not presenting the above drawbacks.

consists of a bottom layer of flexible non-woven one side of which is provided with a contact adhesive, the adhesive on one side being free of tackiness, and adhered thereto small boards which are provided also with a similar adhesive.

The bottom layer may be stored in wound up condition for years as well as the small boards which may be stored in stacks. An advantage of the bottom layer acting as an independent support is that this bottom layer may be wound off onto the floor or may be fastened to a wall and the small boards may be pressed onto the same without the use of an adhesive, heat, hammer or other means at any desired time. As far as the floor is concerned the non-woven bottom layer does not have to be adhered to the sub-floor but may be kept unfastened. An important advantage is also that the bottom layer may accommodate deformations or dimensional changes of the small boards without detachment of the boards.

It is preferred that the small boards to be affixed to the bottom layer have relatively high moisture content. Hereby one means a moisture content close to the moisture content of the wood if the moisture content of the surrounding air is at a maximum. By this the boards are not able to swell so much anymore that diffuculties might arise after applying the covering.

In order to render practically invisible or anyway acceptable interstices due to contraction as well as the possible deformations of the small boards, the small boards are provided round about with a bevelled edge. The small boards may be polished and coated with a finishing layer in advance. In prefabricating panels by affixing the boards to the bottom layer polishing and finishing may also be performed after joining both layers together.

In a preferred embodiment of the invention the non-woven bottom layer is provided with a modified natural latex without a curing agent forming a strong adhesive bond to the bottom layer and the small boards are provided with an adhesive of the same type forming a weaker adhesive bond, however, to the wood. In this embodiment damaged boards may be removed and substituted easily by new ones

without the risk of damaging the bottom layer. The latex from the boards removed will then remain on the bottom layer presenting the contact adhesive layer for the new board without requiring reapplication of the adhesive onto the bottom layer.

According to an other embodiment of the invention the small boards and the bottom layer are already joined together in the factory. Here one has a broader choice of the type of adhesibe. In the factory the small boards may be arranged in patterns or an "endless" belt of the small boards in the same direction may be produced which, on the conveyor belt and in fact along the contour of the top layer, are cut to panels having a width of two, three small boards or more, thus present panels that may be laid onto the subfloor in a loose manner like carpet tiles or may be glued to the wall or ceiling without requiring laths underneath.

On the side not provided with contact adhesive the bottom layer may be provided with a backing, like bitumen, an anti-skid layer, e.g. honeycomb rubber, or a sound proofing or resilient layer, respectively, e.g. polyurethane foam. The contact adhesive is then applied to the bottom layer such that it has an embossed surface. The adhesion is thus improved upon pressing the small boards onto the bottom layer.

An interesting embodiment consists of a square panel having a width of for example six strips in case the length of the strips is six times the width thereof which panel may be cut into two or three identical portions by the user himself with the aid of a Stanley knife for example. When using this panel only one may already form at least twelve different patterns.

The invention is further elucidated with reference to the embodiments represented in the drawing.

Fig.1 is a plan view of an element of the lining material according to the invention;

Fig.2 is a front elevation of this element;

Figs. 3 to 5, inclusive, show three patterns which may be formed by means of these elements;

Fig.6 is a plan view of the bottom layer onto which a small board is applied;

Fig.7 is front elevation of this small board; and

Fig.8 is a cross section of the bottom layer.

The lining material consists of a top layer of small boards 1 adhered to a non-woven bottom layer 2. The small boards are provided round about with a bevelled edge at the top thereof and may be of a different shape and of different dimensions.

The embodiments shown by way of example use small boards the length of which if four times the width thereof. By arranging four of these small boards side by side the producer then manufactures square panels (Fig.1) which may be laid as tiles by the user (Fig.3) or by means of which different patterns may be formed after separation (Figs. 4 and 5).

When laying a parquet floor one winds off the bottom layer 2 onto the subfloor first and then presses the small boards 1 onto the side of the bottom layer provided with adhesive (Fig.6). The bottom layer consists of a sheeting of non-woven polyester the top side of which is provided with a layer of latex 4 having an embossed surface. The small boards which may have a thickness of 3-6 mm for instance are likewise provided with a layer of latex 5 at the bottom thereof.

For lining walls, ceilings and columns the bottom layer may be glued thereto whereupon the same method may be practised as described above for laying a parquet floor.

CLAIMS.

1. A lining material for covering floors, walls, ceilings and columns consisting of a top layer of small boards and a bottom layer characterized in that the bottom layer consists of flexible non-woven one side of which is provided with a contact adhesive the adhesive on one side being free of tackiness and adhered thereto small boards which are provided also with a similar adhesive.

2. The lining material according to claim 1 characterized in that the boards have a relatively high moisture content.

3. The lining material according to claim 1 or 2 characterized in that the boards are provided round with a bevelled edge.

4. The lining material according to one of claims 1-3 characterized in that the non-woven bottom layer is provided with a modified natural latex without a curing agent forming a strong adhesive bond to the bottom layer and that the boards are provided with an adhesive of the same type forming a weaker adhesive bond, however, to the wood.

5. The lining material according to one of claims 1-4 characterized in that at the side not provided with an adhesive the bottom layer is provided with a backing such as bitumen, anti-skid material or polyurethane foam.

6. The lining material according to one of claims 1-5 characterized in that the adhesive side of the bottom layer possesses an embossed surface.

7. A method for the production of panel of the lining material according to claim 1-6 characterized by placing a plurality of small boards fittingly onto the bottom layer and the cutting the bottom layer along the contour of the set of board.

8. A method for laying a parquet flooring characterized by spreading the bottom layer onto the supporting floor and then pressing the small boards onto the side of the bottom layer provided with adhesive.

9. A parquet flooring laid in accordance with the method of claim 8.

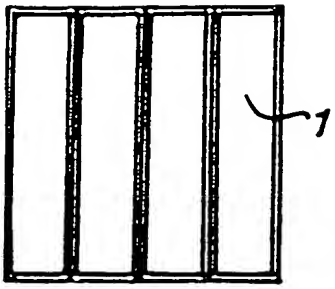

FIG. 1

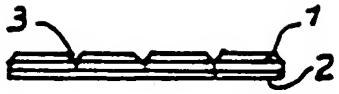

FIG. 2

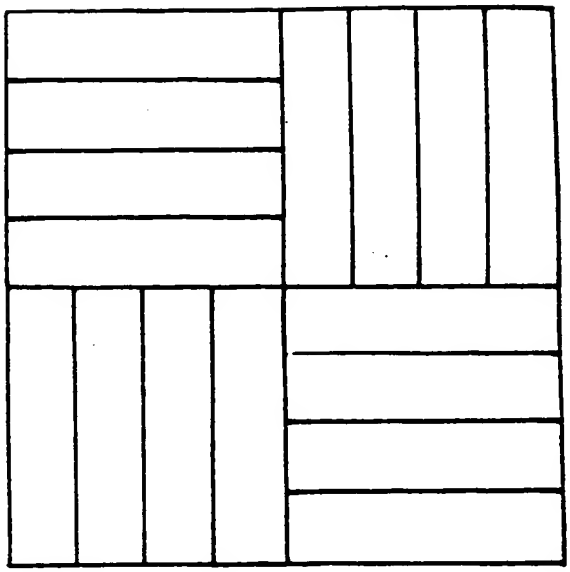

FIG. 3

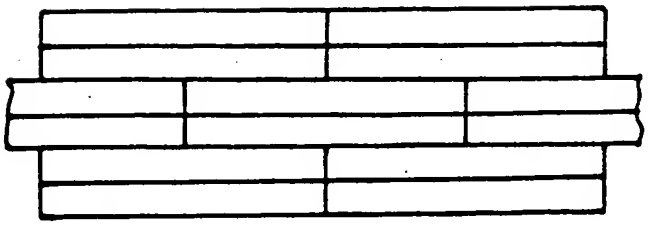

FIG. 4

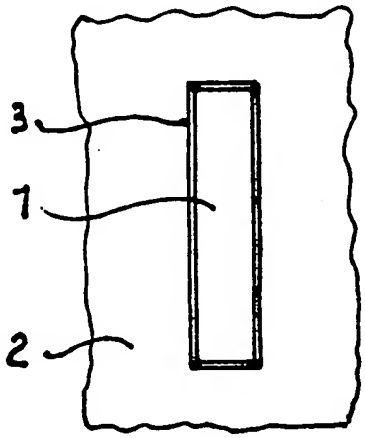

FIG. 6

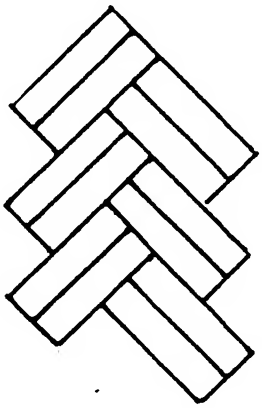

FIG. 5

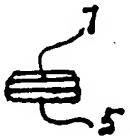

FIG. 7

FIG. 8

INTERNATIONAL SEARCH REPORT

International Application No PCT/NL 84/00006

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC[3]: E 04 F 15/16

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
IPC[3]	E 04 F

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [5]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
A	CH, A, 335845 (B.P.F.J.) 14 March 1959 see the whole document	1,3
A	GB, A, 960006 (VIGERS) 10 June 1964 see page 2, lines 66-120; figures 1-3	4
A	FR, A, 930174 (ROGGEMAN) 19 July 1948	

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IV. CERTIFICATION

Date of the Actual Completion of the International Search [3]	Date of Mailing of this International Search Report [3]
14th May 1984	26 JUIN 1984
International Searching Authority [1]	**Signature of Authorized Officer [20]**
EUROPEAN PATENT OFFICE	G.L.M. Kruydenberg

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ANNEX TO THE INTERNATIONAL SEARCH REPORT ON

INTERNATIONAL APPLICATION NO. PCT/NL 84/00006 (SA 6621)

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 19/06/84

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CH-A- 335845		None	
GB-A- 960006		None	
FR-A- 930174		None	